design document

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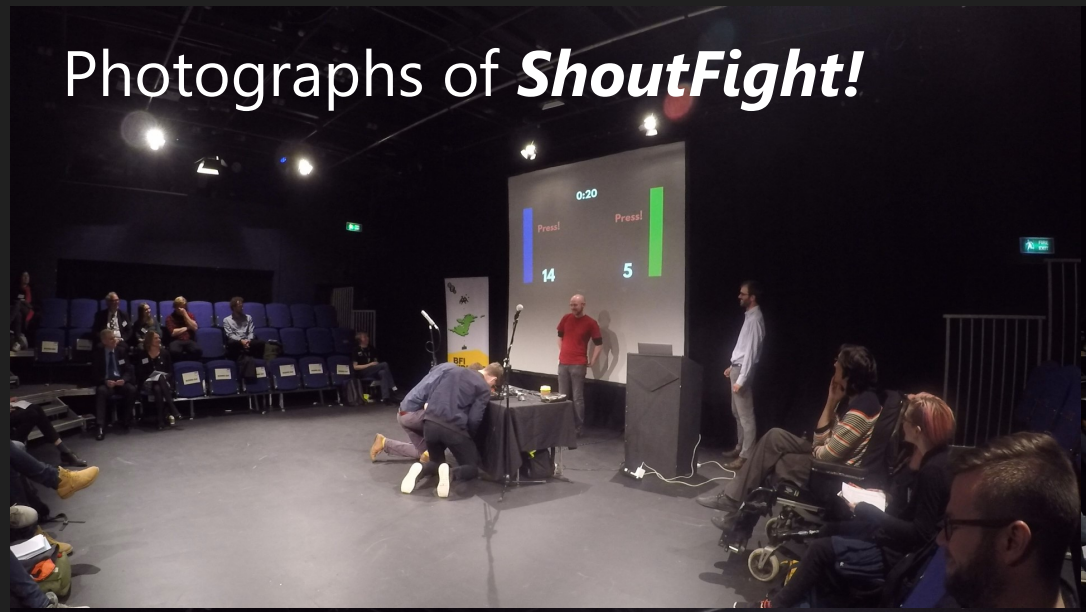
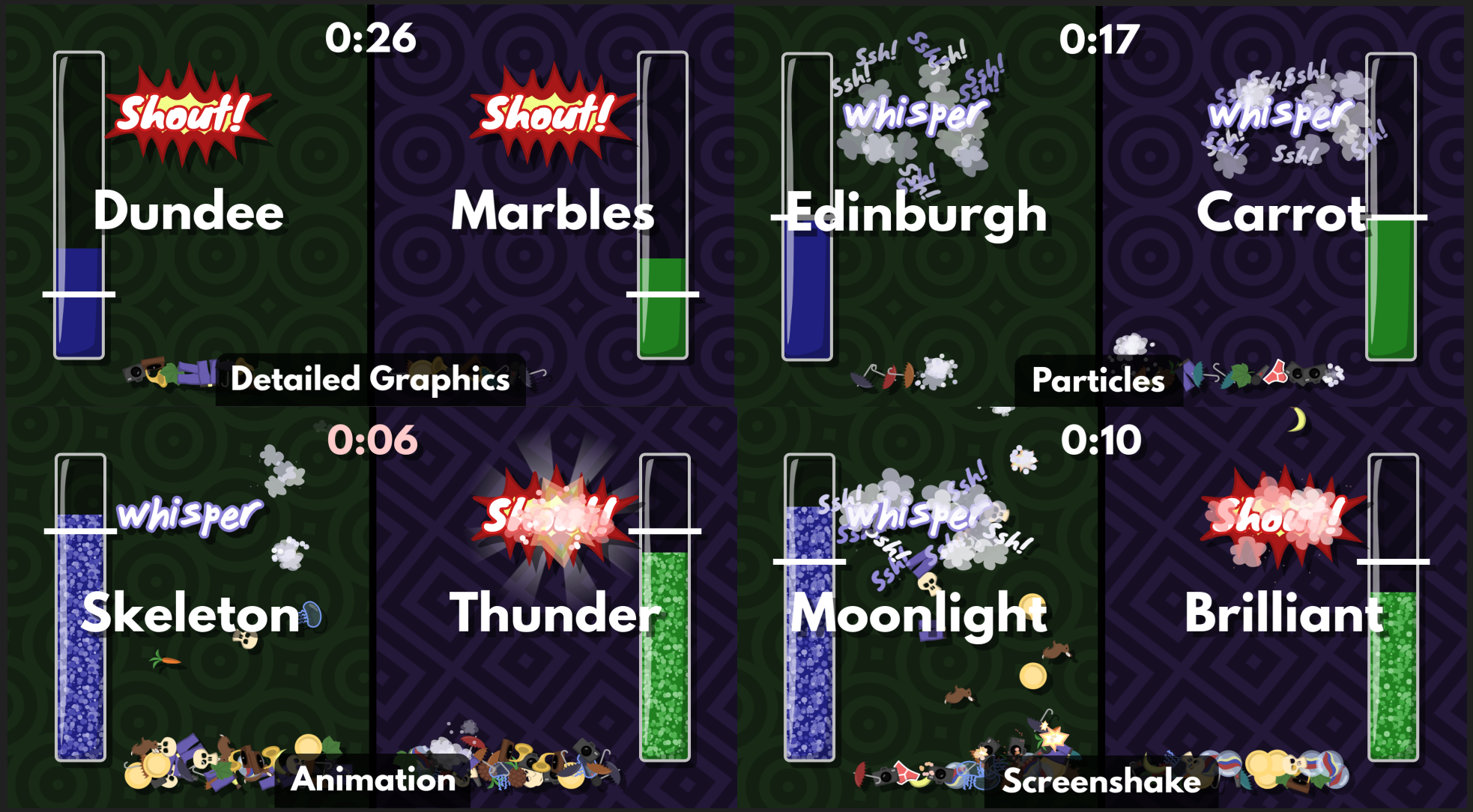
Abstract

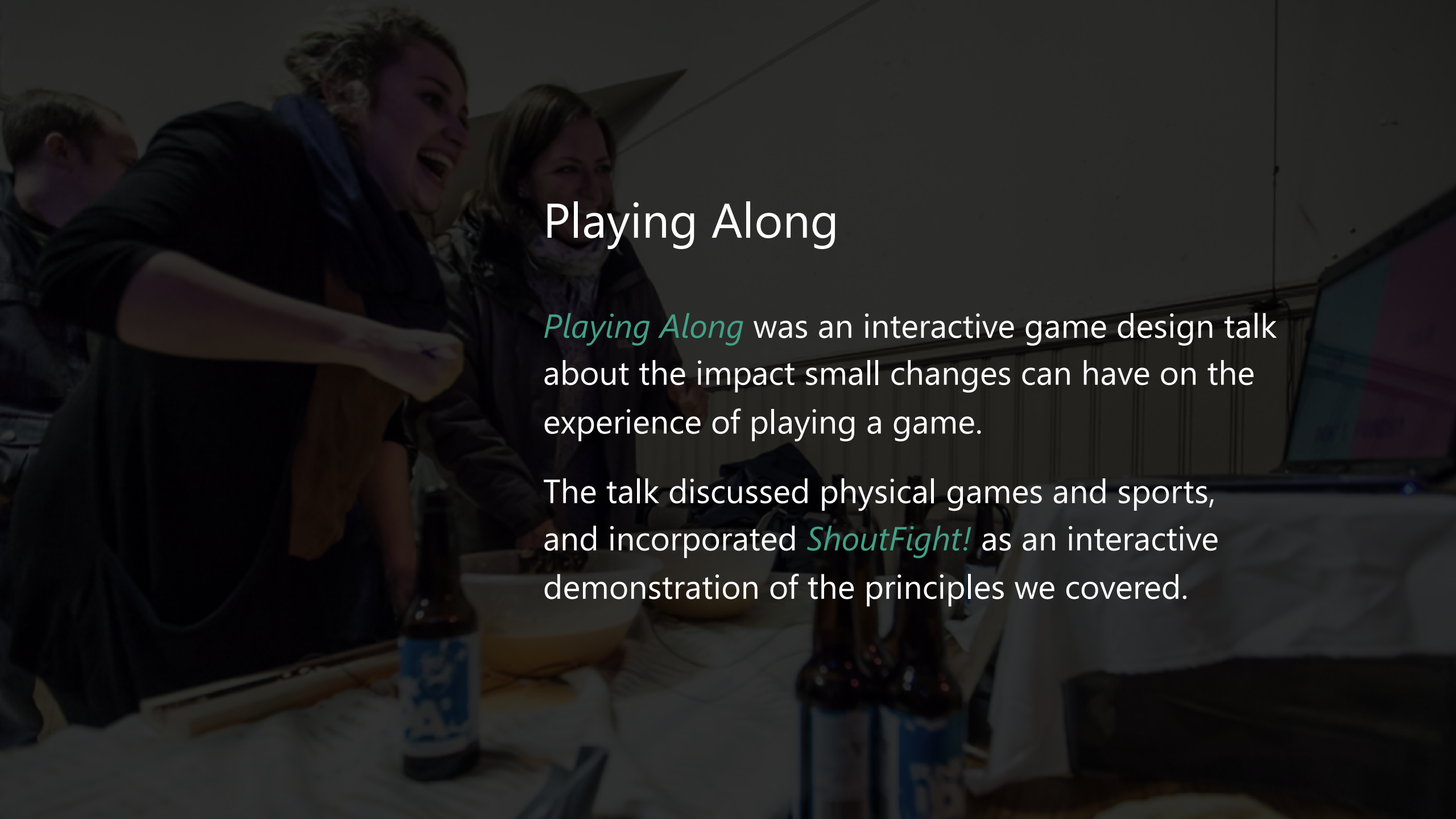
This document discusses the design and development of *ShoutFight!*, a sound-driven game developed together with an interactive talk called *Playing Along*, by Dr. Niall Moody and Yann Seznec.

Photographs of ***ShoutFight!***



Screenshots





Playing Along

Playing Along was an interactive game design talk about the impact small changes can have on the experience of playing a game.

The talk discussed physical games and sports, and incorporated *ShoutFight!* as an interactive demonstration of the principles we covered.

Research Questions

We had 2 main aims in developing *ShoutFight!* and *Playing Along*:

1. To explore how to integrate games and play into a lecture format, involving audience interaction.
2. To explore the design of videogames intended to be played by a large group of people.

AN EXAMPLE

SIMON SAYS

Simon Says

The core idea behind the talk is that small changes to a game can have sometimes outsized effects on the experience of playing that game.

We use the folkgame *Simon Says* as our first example.

Simon Says is a game that is played throughout the world, but with subtle regional differences. Differences such as the name of the game...

لجنرال عمل كده

老师说

Kommando Pimperle

O rei manda

Sabi ni Simon

Kapteeni käskee

Szymon mówi

Kongen befaler

Buruzagiak dio

הרצל אמר

নেতা বলেছেন

Alle Vögel fliegen hoch

Simon says

Yakup der ki

Deir Síomón

船長さんの命令

Alle Vögel fliegen hoch

(trans.: *All birds fly high*)

The rules for *Alle Vögel fliegen hoch* are almost identical to *Simon Says*.

The game leader makes statements like *"All birds fly high"*; *"All planes fly high"*; *"All **pigs** fly high"*, and the players have to jump for every true statement. If they jump for a false statement, they are out of the game.

Small but significant changes

For myself and Yann, the changes *Alle Vögel fliegen hoch* makes to the *Simon Says* formula are minimal, but significant.

While the phrase *"Simon says"* is fairly neutral and not necessarily suggestive of anything in particular, the phrase *"All birds fly high"* has something of a poetic quality.

Such a title, coupled with the action of the players jumping on true statements, almost suggests a longing on the part of the players, a desire to join those birds in the sky.

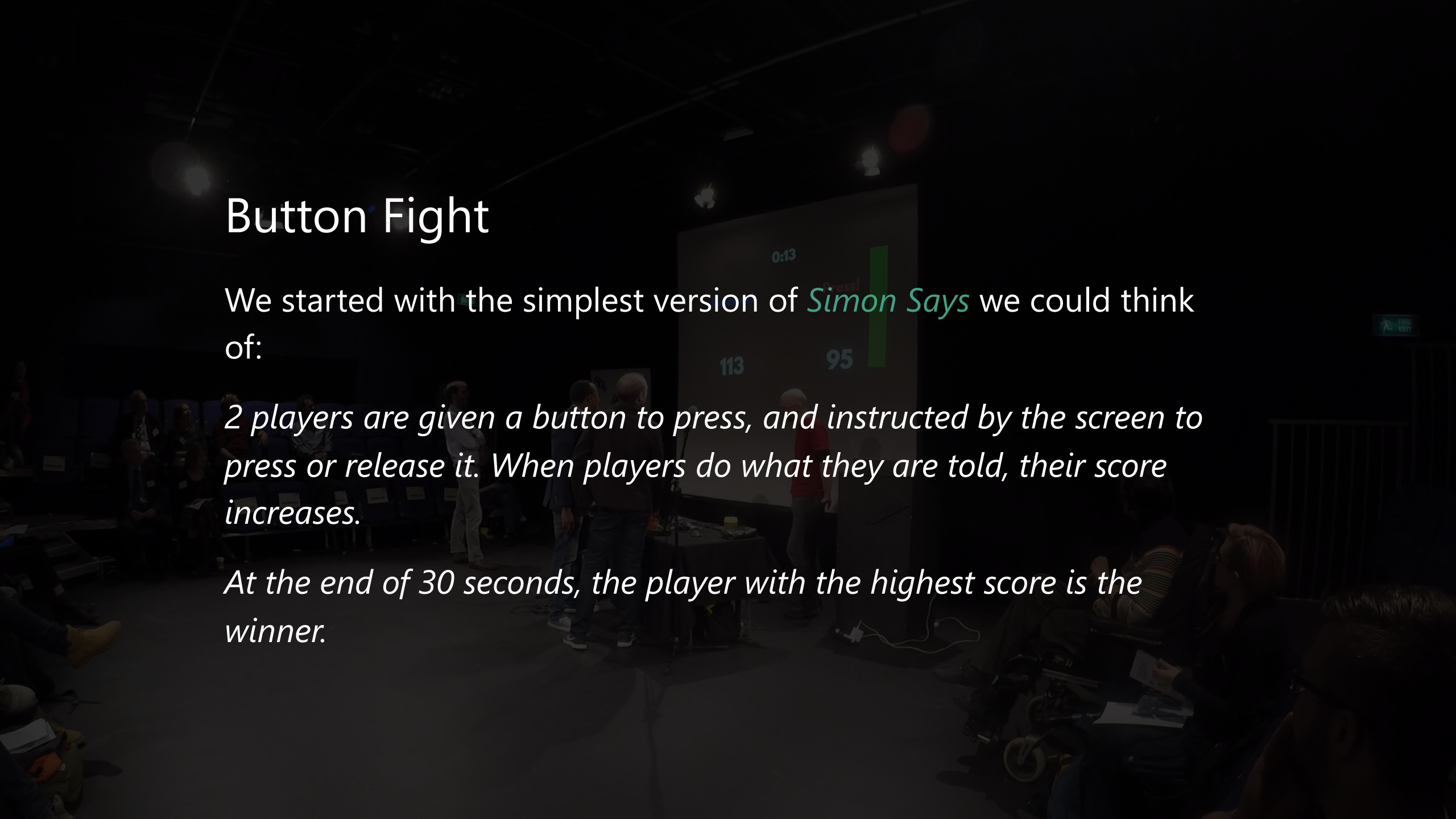
Demonstrating this in practice

To demonstrate this concept of small changes having a significant impact on the experience of playing a game, we developed a videogame (*ShoutFight!*) around a series of variations on *Simon Says*.

As the talk progresses, we step through these variations, playing the game with our audience.

VARIATION #1

BUTTON FIGHT



Button Fight

We started with the simplest version of *Simon Says* we could think of:

2 players are given a button to press, and instructed by the screen to press or release it. When players do what they are told, their score increases.

At the end of 30 seconds, the player with the highest score is the winner.

Simple beginnings

This particular variation on *Simon Says* is not particularly interesting or enjoyable to play. It does, however, give us a starting point to build from.

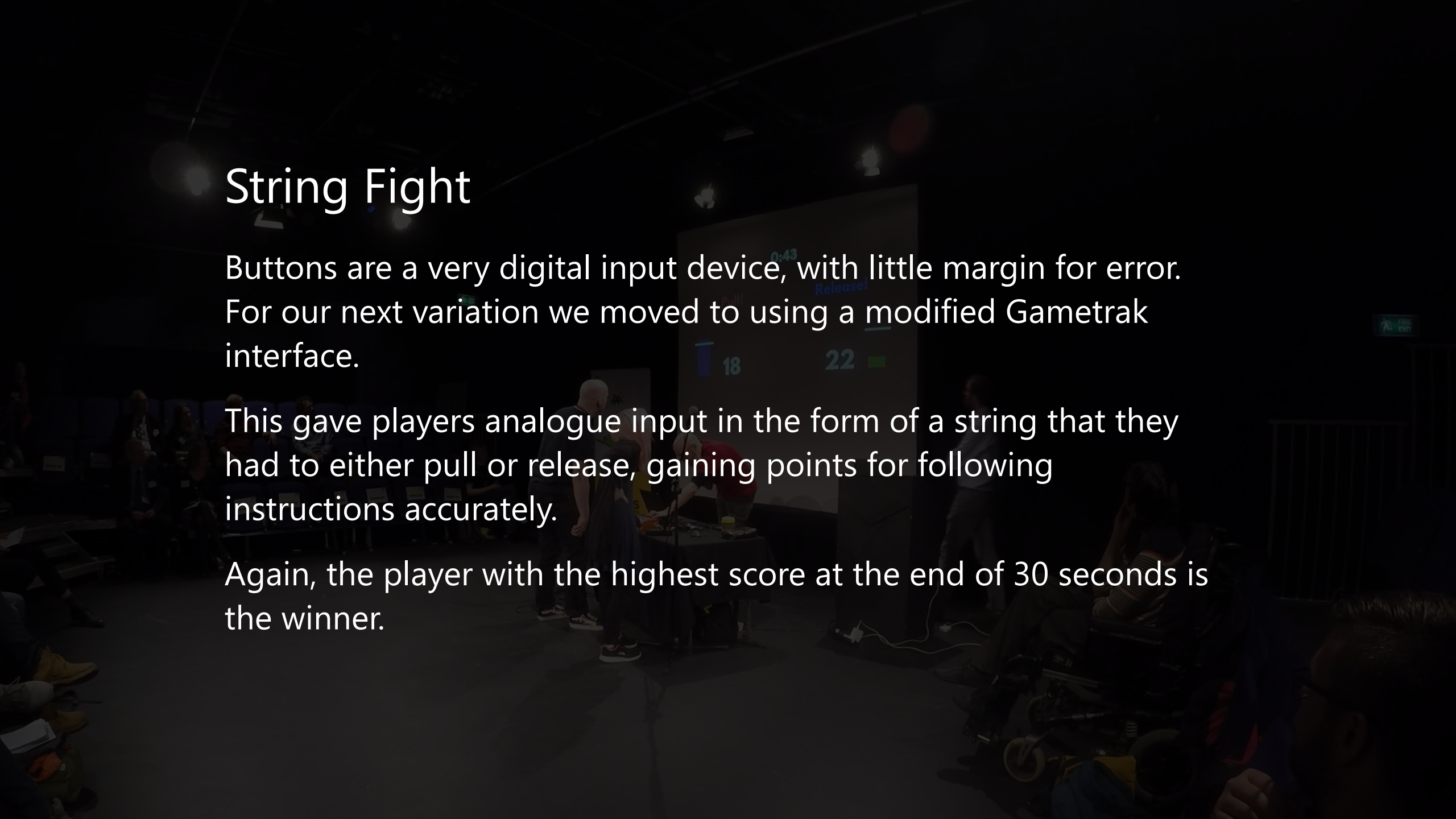
From here we moved on to talk about what we could do to modify and improve the game.

Our first modification:

> *Players have to press the button only using their nose.*

VARIATION #2

STRING FIGHT



String Fight

Buttons are a very digital input device, with little margin for error. For our next variation we moved to using a modified Gametrak interface.

This gave players analogue input in the form of a string that they had to either pull or release, gaining points for following instructions accurately.

Again, the player with the highest score at the end of 30 seconds is the winner.

Analogue input

With this variation, the amount of force players are exerting on the string is visualised on screen, and there is a slowly rising threshold on screen that they have to cross when instructed to pull.

This made for a more interesting physical interaction than the button variation, but was still not particularly exciting.

Modification:

> *Players have to pull the string with their teeth.*

VARIATION #3

SHOUT FIGHT

Shout Fight

For our third variation we kept the analogue input but moved from pulling a string to alternately shouting and whispering into a microphone.

The screen gives each player a word and instructions to either shout or whisper that word. Coupled with the rising threshold from *String Fight*, the game requires progressively more effort (and volume) as time goes on.

Speech detection?

An interesting element in this variation is the words the players are instructed to shout/whisper. While players are told to shout specific words, the software does not actually do any speech detection; it only registers the *volume* of the microphone's audio.

We do not reveal this to the audience until we have played a number of variations of *Shout Fight*. Some have guessed while playing, but so far every audience has followed the instructions and shouted/whispered the words they were told to.

Why shout specific words?

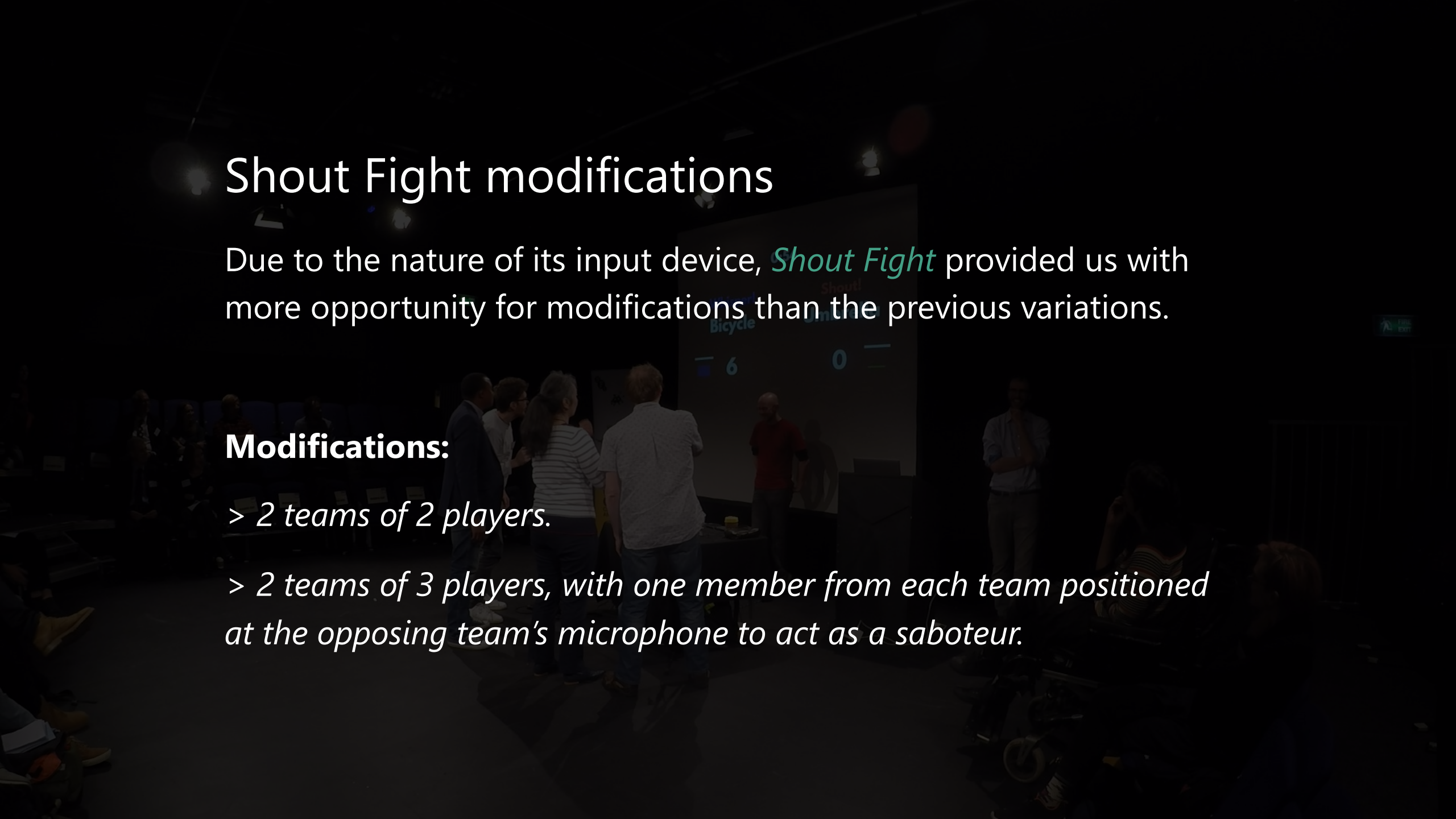
As the software does not run any speech detection, it would work as well with wordless screaming as it does with shouting words.

Shouting words gives us 2 benefits however:

1. Novelty. As adults, we do not get many opportunities to shout “Underpants!” in a crowded room.
2. Shouting specific words tends to be less tiring than wordless screaming.

Shout Fight modifications

Due to the nature of its input device, *Shout Fight* provided us with more opportunity for modifications than the previous variations.



Modifications:

> 2 teams of 2 players.

> 2 teams of 3 players, with one member from each team positioned at the opposing team's microphone to act as a saboteur.

VARIATION #4

JUICE

Juice

We used the final variation (or series of variations) as an opportunity to talk about some of the tools specific to videogames which allow us to modify the player's experience of playing a game, without necessarily changing the rules or goal of the game.

This is where we talk about videogame *Juice*.

What is Juice?

Juice (alternately referred to as *Game Feel*) is a term used to describe the various elements videogame designers can manipulate to alter how it *feels* to play a game, without necessarily altering what the player is doing (their actions, their goals).

It primarily refers to audiovisual design, though haptics (via rumble motors) do play a part too.

Why Juice?

A big part of videogame *Juice* is about making the virtual feel physical, giving the sense that the player's actions have weight, momentum, impact.

This is done through careful use of animation, sound, and screenshake.

Done well, *Juice* can make games feel alive and tangible, and makes simple interactions enjoyable in and of themselves.

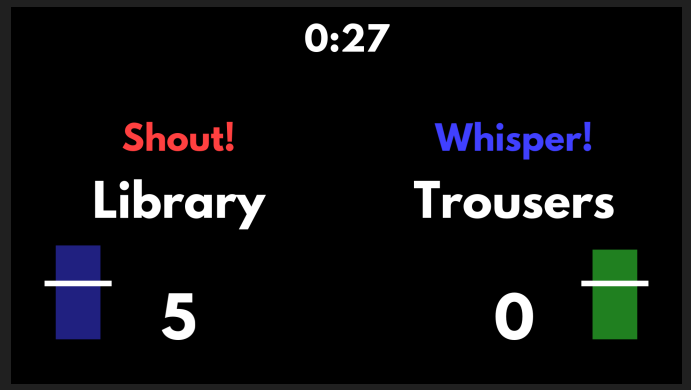
Juice in ShoutFight!

For this final variation, we split the entire audience into 2 teams to play the shouting variant, and as the game progresses we gradually introduce more elements of juice:

1. Detailed Graphics
2. Particle Effects
3. Animation
4. Sound FX
5. Screenshake

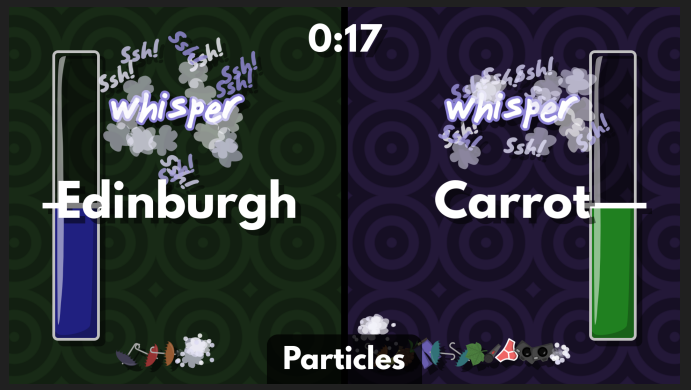
ShoutFight!'s 6 Stages of Juice:

No Juice



Detailed Graphics

Particle Effects



Animation

Sound FX

Screenshake

Footage of ShoutFight! finale at the BFI Video Games Day 2018 (click to play)

Link: https://www.youtube.com/watch?v=c_dxBcPV3xY

Reflections: Structure

Looking back to our first research question, on how to incorporate games and play into a lecture format, the most successful (and, I think, significant) element of the talk was the structure we developed.

The approach of starting with a simple game and iteratively modifying it, while at the same time gradually involving more and more audience members, was a very effective way of demonstrating the impact of small changes in game design.

While *Playing Along* starts similarly to any other talk, it builds over the course of 45 minutes to an energetic, raucous finale, by which point everyone in the room is on their feet and yelling.

Reflections: Juice

While the incorporation of a section on Juice works well thematically with the rest of the talk, the implementation is a bit unusual.

Usually when we talk about Juice we are talking about elements with a direct connection to the player's input (button press, joystick movement, etc.).

The nature of the audio input in ShoutFight!, however, means that there's not much Juice directly tied to the player's (audio) input. It's instead largely focused on the game's UI elements.

Without that direct connection, there's a question of whether the Juice is as effective as it might be.

Reflections: Juice

Some things that could potentially enhance the players' connection with the game:

1. Animation, particles and screenshake to better emphasize when the players are shouting. Shouting is an intense physical experience; the game should reflect that.
2. Some form of animation to emphasize when the players stop shouting. Your immediate physical response after shouting for a while is to take a breath. If the game emphasized this moment with sound and visuals it could potentially create a powerful physical connection to the game.

Reflections: Designing for an audience

Designing a videogame to be played in a physical space with a large number of people poses a number of challenges. Some of the primary challenges include:

- Facilitation: Explaining the rules of the game to an audience with varying degrees of game literacy.
- Technical: A large audience potentially means a large number of inputs, requiring a complicated technical solution.

Reflections: Designing for an audience

With regards facilitation, the fact that *ShoutFight!* is incorporated into a talk about the design of the game itself solved the problem for us. In order to talk about our game design choices we had to explain the game in a very structured fashion.

On the technical side, we intentionally steered away from complicated solutions in favour of lower-tech, more robust inputs. Microphone input in particular was a very straightforward solution to the problem of getting a room full of people to interact with a videogame together.

Dissemination & Impact

ShoutFight! was run as part of the *Playing Along* talk at the BFI Video Games Day 2018 and Continue Edinburgh events.

ShoutFight! has been run as a standalone game (minus the button and string variants) at a number of events at Abertay, including IM/MATERIAL #2: PLAYING IN IM/MATERIAL WORLDS, and university Open Days.